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AUTHOR Grkovic, Susan
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ABSTRACT

Projections developed from the past quarter century trends in New York's tax and spending levels are used to forecast the future financial implications of current fiscal and educational policies. The summary report describes the manner in which the projections are achieved, identifies several concerns and issues associated with the fiscal outlook, and examines questions relative to the future of education in New York. The criteria for evaluation included revenues and expenditures in current and constant dollars, per capita constant, and per capita current dollars, and various demographic data. In order to study the interrelationship between the state's and the nation's economy, total revenues and expenditures for both the United States and New York were projected. (Author/MLF)

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OCCASIONAL PAPER # 26

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SUSAN GRKOVIC

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Orlando F. Furno
James M. Gaughan
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In a perennial economic and psychic boom---such as the post World War II to post Viet Nam era---the possibilities for growth seemed limitless. Education became a panacea to enable society to receive the most from its changing environment.

Today, however, there is much less cause for optimism in general and for education in particular. In fact, the future of our society's most important economic institutions---state and local governments---may be in jeopardy. Spiraling public sector costs, inflexible tax bases, and burgeoning service needs are holding state and local fiscal choice tightly in a vise---making fiscal reform an imperative. Thus, the importance of anticipating future economic pressures and developing plans to meet them must be underscored.

A first step in understanding the fiscal prospects for state and local governments---and, hence, for education---is to project tax revenue and expenditure needs into the future. This is an uncertain task at best, and such projections must be viewed with caution. The forces at work on the economy are so complex, and vary so greatly over time, that no projections are without error. Furthermore, the interrelationship between what happens in a state, national, and world economies is inseparable.

Using data from the national economy as a backdrop, the research study, The Projections of the United States and New York

State Revenues and Expenditures, represents a careful and thoughtful attempt by the New York State Education Department staff to present budget projections necessary for planning New York's fiscal future for education in the decade ahead. Based upon the assumption that the past is a prologue to the future, the projections were developed from the past quarter century trends in the state's tax and spending levels.

The prognosis rendered from this study is that trends and cycles to 1990 promise neither fiscal ruin nor fiscal plenty. Deficit pressure is predicted to continue into the early 1980s with a constant dollar (or real growth) surplus of $19 per person appearing by 1990. This is a very modest gain, however; the surplus constitutes only five percent of anticipated total revenues of $363 per person and is well within the error margins for such forecasts.

Trends, however, distinctly do not presage fiscal disaster; the general financial situation is not undergoing marked deterioration. Nonetheless, the profound economic changes New York is experiencing today promise to be persistent and pervasive the next decade and a half. Barring a revolutionary change in the state's economic structure, this will preclude the infusion of large amounts of dollars for new programs or for the expansion of old ones. This also will mean that resources for education will be sharply limited by other competing public services that have established strong claims to a share of the common purse.

The message of this study is clear: New York will not go bankrupt if it holds to its past budgetary patterns, but neither

can it look forward to guaranteed richer times. The state is neither doomed nor delivered; the hard fiscal choices being made today will also have to be made tomorrow.

How will these fiscal realities affect education, and what policies are called for? Clearly, the economics of education cannot be separated from the short and long term impact that any policy changes will have on the social goals and productivity of the state and its school children. Yet fiscal restraint must be dealt with in ways that do not diminish the quality of education in New York. To develop a sound, practical policy for financing education requires an awareness of the financial situation, a determination about funding priorities, a consideration of the impact and utility of various programs, and a concensus about educational philosophy by the state's policy network.

The purpose of The Projections of the United States and New York State Revenues and Expenditures is to forecast the future financial implications of current fiscal and educational policies and to anticipate the effect of some future decisions in order to help both educational decision makers and the general public better understand the difficult fiscal choices that must be made. Hopefully, it will serve as a useful basis for developing a clearly-defined and well-articulated set of educational goals and objectives that translate the ideals and fundamentals of education into economic terms.

The following pages of this summary report attempt to describe the manner in which the projections are achieved, to identify several concerns and issues associated with the fiscal outlook,

and to examine questions relative to the future of education in New York.

Research Methodology And Considerations

How were these projections determined? The projections of revenues and expenditures were based upon long run cyclical trends inherent in a quarter century of experience (1950-75) and tended to ignore very short term, cyclical fluctuations. The study attempted to predict both future economic trends and cycles (e.g., what happens to the tax base) as well as future political trends and cylces (e.g., new tax rates and public programs). The procedure involved a set of assumptions that used such mathematical equations as, straight-line, polynomialm multiple-order, logarithmic, and Fourier regressions. The major assumptions underlying the projections were: (1) changes in society tend to be evolutionary rather than revolutionary; (2) there will be no major wars or depressions; (3) no major program changes or improvements will be made; (4) no significant alterations in tax rates or structures will occur; (5) there will be no major liberalization of various state aid programs; (6) federal revenue sharing will continue; (7) population in New York will grow very modestly; (8) prices for most materials, goods, and services will grow at their long term historic growth rates; and (9) the state's economy will develop as an outgrowth of the economic growth projected for the nation.

The criteria for evaluation included, revenues and expenditures in current and constant dollars, per capita constant

and per capita current dollars, and various demographic data. Since constant dollars reflect the real growth in goods and services by depicting the extent inflation has eroded the purchasing power of the dollar, fiscal data is represented in both constant as well as current dollars.

Projective data for New York was accumulated through independent projections rather than by disassembling the national totals. However, in order to study the interrelationship between the state's and the nation's economy, total revenues and expenditures for both the United States and New York were projected. As a check for internal consistency, various ratios of New York to national totals were computed and then compared to actual historic values.

As previously noted, the methodology used adhered to a philosophy of historical precedence; that is, if past economic trends and political choices will repeat themselves, then future tax and spending cycles can be predicted from the budgetary patterns of prior years. This procedure was used in lieu of the more complex, analytical "structural" approach which is expensive, time consuming, and not necessarily more accurate. The urgency of the needed information combined with limited staff prohibited undertaking a major research effort such as the "structural" method.

Also, in view of the human resource and time constraints, it was impossible to delve deeply into budgets, statutes, and proposed and new programs at either the federal or state levels. Hence, all possible refinements underlying the assumptions could not be

made. However, given the nature of long term projections, it is questionable whether such refinements would have produced more accurate realistic predictions.

Several caveats should be noted about the use of projections in this research study. First, the estimates of future economic activity reflect baseline projections, and, at best, are an estimate of what can be expected to materialize if there are no policy or program changes of an unusual or unforeseen nature. Since a myriad of social, political, and economic forces can be brought to bear to create modifications, these projections are only suggestive of future trends. Second, the further into the future that projections are made, the greater are the odds for a margin of error. Therefore, the longer range projections to 1990 should prove to be less accurate than the shorter term ones to the nearly 1980s. Finally, the approach used by the New York State Education Department staff which is based upon historical precedence is one commonly used for determining such data. However, it does not exhaust the possibilities. Many combinations and permutations of this approach, and others such as the "structural" method, are possible. Each has its strong and weak points and will differ according to the circumstances and the goals of the institution for which such data is being sought.

RESEARCH RESULTS

As previously stated, the conclusions drawn by this study do not portend great optimism for education in New York in the decade ahead; neither do they signal disaster. The corollary is that educational planners and decision makers must proceed thought-

fully and prudently to bring educational goals and objectives into concert with the state's fiscal realities. What is the corroborating evidence for these conclusions? What is the total framework---the interweaving, interlocking factors and events---from which these conclusions are drawn? What are the comparative statiscics? What is the extent of the state's resources to support education and what are the long term projective costs? What specifically will be the impact of projected revenues and expenditures upon New York and how will federal, state, and local assistance for public education affect the local school governments? In short, what is the projected total aid and budget outlook for the New York public school system (K-12) in the decade ahead?

To answer these questions, it is necessary to look at the entire cosmos in which New York's economy functions, the internal conditions and plans, the trends and cycles locally as well as nationally as they impact upon the state and its educational system. In other words, school budget deficits and surpluses must be cast in the light of projected revenues and expenditures from New York's economy and, in a larger sense, from the national economy to provide a perspective about the interplay between operative forces.

To begin with, it is necessary to take an economic barometer reading of New York's economic health. The fiscal weather vane reveals that the state's share of the national economy has declined as has its level of fiscal activity during the past several years, and it is predicted to continue to diminish during the next decade and a half. In comparative terms, New York's ratio

of the nation's per capita personal income in 1950 was 1.27; but in 1971, it was 1.22. Predictions for 1980 and 1990 are 1.21 and 1.19, respectively. While the ratio declined from 1950-71, the 1971-90 decrease is only half as much, still leaving New York above the national average. In terms of the employment ratios, New York's are approximately equal the nation's. Moreover, from 1971-90, the state's personal income is projected to increase at a 3.53 percent compound annual growth rate compared to 3.92 for the United States.

New York's diminished fiscal status vis-avis the nation will require increased productivity, curtailment of all but essential capital projects, and promotion of more efficient and economical service operations. It is important to note that while New York's economy will not expand as rapidly as the nation's, this does not mean that the state's fiscal activity will be reduced.

Clearly, to promote a cautionary environment with respect to New York's financial situation is wise, but to engender an obsessively pessimistic climate is unwarranted by a number of economic indicators.

What does this information mean for the state's economy in actual and projected dollar amounts? To answer this question, it is necessary to examine the historical perspective. From 1950-62, total general revenues for the state exceeded total general expenditures by varying amounts. In 1963, expenditures exceeded revenues by $9.7 million. This trend continued until 1973 when revenues surpassed expenditures by nearly $107 million; and in 1975, by $427 million. From 1975-90, expenditures are projected to exceed revenues by decreasing amounts each year. Beginning in 1981,

revenues are predicted to increase over expenditures by $42 million, increasing each year until 1985 when the projected excess is $684 million. These surpluses, however, will be used to offset the previous years deficit. In the following half decade (1986-90), revenues are forecast to surpass expenditures each year. Not until 1980, when revenues are predicted to exceed expenditures by $910 million---and the surplus is $1,384 million---can New York consider raising its level of services appreciably.

With the state's fiscal picture as a backdrop, what are the actual and projected surpluses and deficits for revenues and expenditures for New York public schools (K-12)? (Budget surpluses and deficits are measured by the differences between actual and projected revenues and expenditures.)

Educational expenses are a function of easily measured costs and the goals established for public education as well as the revenues available to support the public services that the state must operate. Thus, for educational services and programs, it is necessary to examine such parameters as: fall enrollments, personnel, total expenditures, and total revenues, including federal, state, and local assistance as well as full property valuations.

Pupil Enrollments And Personnel Costs

Pupil enrollments, teacher salaries, and pensions are cost determinants that will affect state expenditures for education. From 3.406 million pupils in public schools (K-12) in 1975, 3.076 million are projected for 1980---a decrease of 0.33 million pupils.

Enrollments are projected to decrease still further to 2.860 million in 1985. From this point, pupil enrollments are predicted to increase at the elementary level but still trend downward at the high school level so that by 1990 public school enrollments should increase over the 1975-90 period, although teachers for the handicapped should increase as greater attention is focused on special educational programs for this group by the federal and state governments. Increases in this area, however, will be offset by pupil decreases in other areas so that the net result should be nearly the same staff ratios in the future as presently exist. Educational pensions, moreover, are assumed not to be liberalized further. In fact, the assumption is that part of the pension contributed by the individual employee will be maintained and even slightly increased in the early 1980s.

Although many factors affect school costs such as, numbers of teachers, inflation, instructional services, operation and maintenance of plant, pensions and other fringe benefits, supplies and materials, the declines or increases in pupils are poor indicators of school expenditure increases or decreases. For example, while pupils enrolled in New York public schools rose at a .99 percent compound annual rate from 1964-75, total school expenditures increased 11.4 percent. State aid for public schools and local property tax levies increased at rates to finance total school expenditures, but most importantly the full property valuation, upon which the local contribution is based, increased at only 6.57 percent whereas state personal income, upon which state income heavily depends, rose at a 7.03 percent rate. To finance

their share of total school costs, local school districts had to increase property taxes.

Total Expenditures

Total expenditures for public education (k-12) include current operations and capital outlay expenses as well as debt service payments on principal and interest. Borrowings, such as, premium and accrued interest on bonds and note are excluded to maintain a consistency of trend data.

Forecasting for the next decade and a half, total expenditures are expected to rise from $7,580 million in 1975 to $11,075 million in 1980, reflecting a 7.87 growth rate, which is considerably lower than the 9.34 percent rate for the 1970-75 period. From 1980-85, expenditures will increase by $4,754 million, a 7.4 percent increase, to $24,854 million in 1990, a 9.44 increase. Over the entire projection period, this represents a compound annual growth rate of 8.24 percent which is significantly lower than the past decade's (1964-75) 11.4 percent growth rate.

Expressed in per pupil expenditures, such expenditures rose from 1964-75 at a 11.3 percent growth rate. The projected growth of 9.6 percent for the next decade and a half results in per pupil costs of $3,534 $5,573, and $8,813 for 1980, 1985, and 1990, respectively. This is slightly lower than the previous rates of growth.

Total General Revenues

Revenues to finance public elementary and secondary

education in New York come from three major levels of government---federal, state, and local. Of these three, local sources provided the largest share with approximately 48 percent in 1975. State assistance amounted to nearly 40 percent in the same year, while the federal share was almost 13 percent. Within this fiscal framework, each level has its unique tax structures and each structure responds differently to inflation and other economic forces.

State Assistance

State aid for public schools is forecast to increase at a 6.66 percent growth rate over the next decade and a half, compared to a 10.16 percent growth rate for 1964-75.

In terms of a percent of total aid for schools, in 1964 the state's share was 43 percent, decreasing to nearly 40 percent by 1975. Projections estimate that the state's share of total aid will decrease to 36 percent in 1980, to 33 percent in 1985, and to 31 percent in 1990.

Expressed as a per pupil measure, state aid per pupil grew at a 9.07 percent rate from 1964-75. It is predicted to increase from $867 to 1975 to $2,749 in 1990---reflection an 8.0 pr percent overall growth rate.

Federal And All Other Aid

Federal and all other aid (includes federal monies, non-property taxes, and miscellaneous revenues) was 4.6 percent of total aid in 1964. In 1975, this category represented nearly 13 percent of total school aid---and it is projected to jump to almost

17 percent by 1990. Aid from this source is expected to rise from $0.936 billion, to $1,524 billion, to $2.487 billion in 1975. 1980, and 1990, respectively. The progression of per pupil aid increases from these sources for the years 1980, 1985, and 1990 is forecast to be $485, $854, and $1,506, respectively.

Property Taxes And
Full Valuations

Most local district revenues come from property taxes. Historically, local school support of the schools has accounted for almost 50 percent of total public revenues. However, it must be noted that inflated prices that schools must pay for various consumable products have eroded local budgets considerably in the past several years, and pre-empted the use of new revenues to keep pace with rising costs.

Property tax projections estimate increases from $3,617 billion 1975, to $5,630 billion in 1980, to $8,198 billion in 1985, and to $13,409 billion in 1990. To reach the 1990 figure, a 9.14 percent growth rate is predicted, which would mean that revenues from real property taxes will constitute 48.6 percent of the 1976 total revenue, 50.4 percent in 1980, 51.1 percent in 1985, and 63.3 percent in 1990. In terms of per pupil enrollments, this means that real property taxes for public schools should rise from $1,063 in 1975 to $4,755 in 1990.

Full property valuations from 1964-75 increased from $89 billion to $179 billion. Predictions indicate a growth from the 1975 level to $483 billion in 1990, reflecting a 6.83 percent overall growth rate for the next decade and a half.

Projected Total Aid
And Budget Outlook

Local, state, and federal revenues for New York public schools (K-12) totalled $2,373 billion in 1964, increasing in 1975 to $7,501 billion for a compound annual growth rate of 11.03 percent.

The progression of increasing revenues for the years 1975, 1980, 1985, and 1990 is projected to be $7,501 billion, $11,157 billion, $15,930 billion, and $25,930 billion, respectively, which reflects growth rates of 8.26 percent, 7.38 percent, and 9.79 percent for each respective five year period. Overall this is an 8.47 percent annual growth rate, much lower than its historic growth rate of 11.4 percent.

In per pupil dollars, total revenues per pupil was $778 in 1968 decreasing to $2,205 in 1975, for 9.94 percent growth rate. Total revenue per pupil is expected to rise from $4,525, in 1980, to $5,573 in 1985, and to $8,813 in 1990. This is a compound annual growth rate of 9.6 percent, slightly lower than its long term historic growth rate.

The actual and projected surpluses and deficits picture for New York public schools shows that from 1964-68 total revenues exceeded expenditures by varying amounts. In 1968 expenditures exceeded revenue by $.001 billion, by $.066 billion in 1970, and by $.099 billion in 1972. In 1975, there was a deficit of $.079 billion. Expenditures are expected to exceed revenues by decreasing amounts until 1980. However, not until 1983 will revenue surpluses offset expenditure deficits of previous years. This occur at approximately the time elementary pupil enrollments are pre-

dicted to increase, making funds available to offset expanded enrollments and to provide for some improvements in the levels and quality of education for New York's public schools.

In light of New York's projected economy in the next decade and a half and the propensity for school costs to rise, what are the ramifications for local districts?

First, given the present inclinations of the state's legislature, state assistance for public education will increase slowly and reluctantly. The projected excess of expenditures over revenues during the next few years will harden the line to hold state assistance for public education to minimum increases. Second, inflationary spirals will bring great pressures by educational personnel for salary increases that will reflect pension increases. Third, with declining student populations, local districts will have to maintain existing professional staff/pupil ratios to keep educational costs down. In some cases, to avoid property tax increases, professional staff per 1000 pupil ratios will have to be reduced. Some staff reductions can be realized through attrition, but the personnel situation will require serious consideration. Fourth, local school districts will probably have to tax themselves more heavily in the future if schools are to maintain their present levels of services, considering the decreasing percentage of state assistance.

SUMMARY

In summation, the message from this study is clear: Efforts must be made to "control spending" and to prudently and efficiently manage the state's fiscal resources to maintain crucial

educational services. The cost of public education depends upon what the citizenry wants education to accomplish. A sound, practical policy for financing education cannot be achieved unless there is a consensus on what the educational goals and objectives should be. This need for firm, positive action must be realized; not that it is easy to reach agreement on proper action, but a dialogue for producing a philosophy and a set of standards must be strengthened. Hard determinations and thorough examinations will have to enuse. The ultimate value of the process will depend upon the calibre of analysis and thinking that precedes the execution of plans and programs. This is why it is important for New York's educational policy network to lead the target by anticipating the economic climate and fiscal realities of the future. The economic situations facing the New York schools in the future will be unique, and they will require responses that are appropriate to that uniqueness. To base plans on what has gone before or even on what is occurring now is to base New York's educational future on "reaction" rather than "proaction".

Money is important. But money does not of itself solve problems. Problems are solved by people thinking, by order and system, by techniques and ideas and plans, by benign intentions, and by cooperation among persons and institutions.

In the end, the final justification for all the billion dollar programs, all the lofty educational goals, all the organizational efforts, is that somewhere an individual child learns something that he might not have learned or grows in understanding or gains in skill or capacity or insight.